TWIN CITY ATARI INTEREST GROUP NEWSLETTER
==========
SEPTEMBER, 1983

President: Phil Seifert (448-7042) Vice President: Dale Panton
Secretary: Rick Christian Treasurer: Jim Dahlberg

AUGUST MEETING NOTES

This month's minutes come to you courtesy of our V.P. Dale Panton, who, at the last minute, volunteered to take notes in my place, after a last minute change in plans made it impossible for me to get to the meeting until it was almost over. Thank you very much Dale.

Atari has started to ship the new 600XL computers. They should be in the stores in a couple of weeks.

A new Atari only magazine called ROM is just beginning. It is a bimonthly magazine published in British Columbia. A subscription for one year cost $12, the cassette version $30, & the disk version $50. If you wish to subscribe, write to: ROM, P.O. Box 252, Maple Ridge, BC V2X7G1/

The Alien Group, a company that produces the VOICEBOX speech synthesizer, has extended to TAIG the following offer. VOICEBOX I, which runs on a 16K cassette system costs $50. VOICEBOX II runs on a 48K disk system & costs $97. If ten or more are purchased by the group, the price is $85. VOICEBOX I can be upgraded to VOICEBOX II for $59.

There will be an Atari Convention in Detroit sometime in October. It looks like another CES.

Bill Nordstrom, chairperson of the Education Special Interest Group announced that he needs someone to coordinate the activities of the Education Group. If interested, talk to Bill.

The newsletter is getting a bit lean; more articles are needed every month. Please submit!! The deadline for articles is the 5th of every month in which the article is published. Please keep the line length to 40 or 50 columns. It was noted that the XMODEM & XMODEM43 programs cannot be used to upload articles to the newsletter computer until we modify them.

Wayne Vasal, Program Librarian, announced that the listing for this month's disk of the month didn't make the newsletter. It will appear in the next newsletter.

It was suggested that those members who subscribe to COMPUTE magazine get together to share the burden of typing some of the excellent programs that are appearing. Mike Doleman will coordinate this activity. (coordination meeting after this months meeting-ed).

A new program called WORDFIND has been submitted to the library by the SPACE group.

The status of our BBS has not changed; meaning that it has not yet moved & that system errors are still commonplace. The BBS will eventually be moved to Wizard's Work, but we are still waiting for the phone line to be installed, amidst the strike. When the BBS moves, new system software will be running that requires passwords. To obtain a password, put your name, address, phone number & 3 choices of password on a 3x5 index card and send it to Phil Siefert, Kelley Rd., Chaska, MN 55318.

In a recent COMPUTE magazine there appeared a program which allows one to play the Atari like a keyboard instrument. Mike Doleman is interested in forming a band of such instruments. If interested please contact Mike.

Speaking of music if you have any Christmas music that you have entered into the Advanced Music System, please submit the files to Mike Davis, who is putting together a special disk of these tunes for the November meeting.

Next month Jim Dahlberg will present a tutorial on XMODEM at 6:00 PM before the meeting.

At the October meeting Gordon Landsman will present a tutorial on how to use the Data Perfect software package.

LIBRARY NOTES

HERE IS THE LISTING FOR THE PROGRAMS ON THE AUG. DISK OF THE MONTH.

TANKBAT.BAS -WHERE IS THE GENERAL.
COLLISSI.BAS-DODGEM.
ANTWARS -DESTROY THE EGGS.

PLOT.825 -A PLOT UTILITY.
DOGFIGHT -A SPACE BATTLE.
BUBLSORT.ANT-ALPHABETICAL SORTER.
SPIDER.BOI -ETCHASKETCH ANYONE?.
ATARI800 -GREAT ATARI DEMO.
SCAN3 -MISTAKEN ART.
STELLAR -SHOOT DOWN INVADERS.
COUCH -YOUR PSYCHIATRIST AND YOU.
MASTER -MASTERMIND GAME.
QUBIC -3D TIC-TAC-TOE.
RICOCHET -GUESS AT TARGETS.

THIS MONTHS PROGRAMS (SEPT) FOR BOTH DISC AND CASSETTE ARE:

VALNTINE.BAS-ONLY ON VALINTINES DAY.
TREDMAZE.BAS-SLICK MAZE GAME
ALPHA.BAS -GOOD MEMORY GAME.
CONVERT -U.S. AND METRIC.
LASERGUN -DESTROY THE ENEMY SHIP
STARMERC.BAS-AN ADVENTURE GAME
WORDFIND.3 -GREAT FOR CROSSWORD GAMES
ALIENATT.ACK-AWESOME, STRICTLY AWESOME
ALIENBAR.AGE-MISSILE COMMAND?
MUNCKINS.OCT-MUNCH, MUNCH, MUNCH.
SPACDUEL -NOT THE O.K. CORAL

SEE YOU AT THE MEETING

ATARI MUSIC

by Mike Davis

Last month, I talked with Lee Actor concerning his Advanced Music System version 2.0 program. It will be released on cassette and disk through APX. He believes the release date will be around December or January.

The good news is that version 1.0 files will be usable with minor editting. The ties in version 1.0 files will be ineffective with the version 2.0 program. Lee has decided to use tone decay control which eliminates the necessity for the "T" option. Other improvements include tempo changing (even within a measure) and handling cassette files for those who don't have disk capability.

Well I now have volume #1 of AMS music files completed. I made 10 double-sided disk copies. There are 32 songs total. They will be sold for $6.00 each at the next club meeting. This was cheaper than making two one-sided copies of volume 1 at $4.00 each.

Here is a the list of songs contained in volume #1.

Side 1	Side 2
NEWYORK	BASINST
ENTER	SICILIAN
MALA	WHENBABY
MAPLERAG	UNBIRTH
NOLA	SEVENTY6
MYPRINCE	BALLGAME
WISHSTAR	SMALLWOR
TWELVTH	GLADIATO
ZIPADEE	COMEDIAN
JUSTWAY	MUSICBOX
TANGO	POSTMARC
CLOCK	EYESBLUE
PUSSYCAT	HAILTO
PERRY	VOICESPR
TAKE5	SPACIFIC
NITENDAY	
BIBBIDI	

As I mentioned at the last meeting, I would like to organize some Christmas music development at this meeting. Presently, our music library for AMS consists of "Have Yourself a Merry Little Christmas", "Marshmallow World", "Rudolph the Red-Nosed Reindeer", "Sleighride", "White Christmas", "Winter Wonderland", and "O Holy Night". This will give us two months to expand the library before the November meeting.

Since I don't always bring in my system to the meetings, it would be greatly appreciated if you could bring in your contributions on a disk, and I'll return your disk at the next meeting after having made copies of it.

HARDWARE/SOFTWARE NOTES

By Todd Burkey

Busy month for me in the area of hardware. I got my ATR8000, the Austin 80 column board, Austins' ATR8000 terminal cartridge, a Zenith monitor, and last but definitely not least, my Koala pad. The ATR8000 I talked about last month and it is living up to all of my expectations, and more. All of the Kaypro PERFECT software (Perfect Calc, Perfect Writer, Perfect Speller, and Perfect Filer) work on the ATR8000 with no modifications. In fact, when I added the 80 column card and told the Perfect software my terminal type, the software worked perfectly in an 80x24 screen addressing mode. I talked to Austin Franklin and learned that they use ATR8000's in their shop; hence the good compatibility with their board. I also learned that they are all DEC people (using VAX 11/780's) and have a new product called the VT100 terminal emulator. This is a modem program that will emulate a DEC terminal type that utilizes screen addressing for screen editting on other computers. My version of this program had a few bugs, but I found that everything was already being corrected by AF. I recommend this program to

anyone with an AF-80 board (yes, it does support XMODEM protocols and has quite a few other features.)

But forget that for now. The high point of the month had to be getting my Koala pad. This pad is a touch sensitive input device for the ATARI. By simply moving your finger or a pencil around on the pad, you can move a cursor around on the screen. A program much like PAINT is provided with the PAD to allow you to see most of its' capabilities quite vividly. The resolution is so fine and controlable that you can write your name on the surface of the pad and obtain an accurate image on the screen. Alternately, you can pick menu items with ease or trace the outline of picture for further painting. It is easy to modify any programs you have written to use the tablet if you are currently using the joystick or paddle for menu selection or moving about, since the pad sends out two paddle and trigger signals to the ATARI. I am sure the pad will be demoed at the next meeting, so I won't try to describe it any further here. Just a few vital statistics: size-5"x6" (fits in hand), resolution-228x228, cost-$99 retail (includes program).

Well, the Rana's finally arrived in the cities, but only one was initially allocated per dealer for demo purposes. I have been using one for the last week and haven't found any problems with it. In fact, after taking it apart and looking over the insides I upped my order to 15...there isn't much that can go wrong with them. You can't add a cheap slave drive on them, however, like you can on the Percom, so Percoms are still a viable alternative if you plan on using more than one drive.

I have seen a lot of new software coming out recently. Q*bert, Pooyan, Spy Strikes Back, Gamestar Baseball (good 3D effect), Triad, ZOMBIES (another good 3D), and even more fall into what I consider my good list. Maybe someone out there would like to start a dogs of the month' list, because I also saw an unusually large amount of junk games come out in recent months. I should clarify junk games. I fit bad games into two categories. Category 1 is the type of game that I find too boring to even finish one round of play (River Race, anyone?). Category 2 is the type of game that hooks me in some trivial manner and puts me in a trance that usually breaks when my thumb starts hurting (Pieman, et al). I would really appreciate it if someone would warn me about these types of games.

TWO NEW COLUMNS
by MDN

Starting at the September TAIG meeting I will be taking high scores for my new column called "Taig Hall of Fame". To enter a score just write down on a piece of paper your:

1. Name (First & Last) or initials.
2. Score or Rating.
3. Level you started on.
4. Level you ended on.
5. Anything else to make it exciting

Then put it in the box labeled "Hall of Fame" found in the front of the room of the meeting hall. To start out here are some high scores that I know of:

1. Jawbreaker 1 55,180 (5th s.boat) MDN
2. Apple Panic 153,930 Don Nelson
3. Dig Dug 114,800 (2nd melon) MDN

Also starting at the September TAIG meeting, I will be collecting questions and answers for adventures for my new column call "TIPS". To enter a question write down on a piece of paper your:

1. Name (First & Last) or initials.
2. Game in question.
3. Question or problem.

To enter an answer or hint to a question write down on a piece of paper your:
1. Name (First & Last) or initials.
2. What you are answering or hinting.
3. The answer or hint.

Then put either your question or answer (hint) in the box labeled "TIPS", found in the front of the room of the meeting hall. Put it in the desired slot (Question or Answer)

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PROGRAMMER'S TOOL KIT
by Dale Panton

Sorry for the two month absence of this column from the newsletter. I guess I have been spending too much time making demos for the Player/Missile Graphics special interest group. At any rate, this month we will deal with some techniques that novice ATARI programmers may be interested in knowing, and also will develop another simple subroutine for the library we have started.

Did you know that there is no explicit shift instruction in the ATARI BASIC language? A shift instruction can really come in handy to access the individual bits of a particular byte of interest. Todd Burkey is showing us how this can be done in Assembly Language, where there are no less than four separate shift instructions. But did you know that dividing an integer by two has the same effect as shifting that integer right one bit in a binary representation? Conversely, multiplying an integer by two has the same effect as shifting left one bit in a binary representation. As an example, consider the number 53. Its binary representation or bit pattern is 00110101. If we shift this number right one bit and fill the leftmost bit position with zero, we get 00011010, which is the binary representation of 26. The same result can be achieved in ATARI BASIC by the expression INT(53/2). However, the internal evaluation of this expression is not the same as shifting right one bit because ATARI BASIC stores all numbers not as binary integers but rather in decimal as 6-byte BCD numbers. So we say that INT(53/2) just achieves the same result as a 1-bit right shift. Now suppose we wanted to find out whether the bit we shifted off the right end of the number was a one or a zero. Then we could use the BASIC expression 53-2*INT(53/2). It follows then that if we want to shift a number right 2 bits, then we divide by 4; 3 bits, divide by 8; n bits, divide by 2 to the nth power. These same principles apply to left shifting via multiplies by 2,4,8,...,2^n.

Next, let's make use of this concept by writing a subroutine that will teach us something and also that we might be able to use someday. The subroutine will accept as input a byte value (0-255) and will produce as output a character string that represents the bit pattern of the byte value. But in the character string, the zeroes will be represented as periods and the ones as inverse spaces (CHR$(160)). This decision is arbitrary, but the reason for these choices will become apparent later. The subroutine is called BITPAT and is listed at the end of this article. Note that to call this routine, one must set ARG1 to the byte value we wish to see the pattern of and GOSUB 32102. The 8-character string representing the bit pattern is returned in ARG1$. Note also that the FOR loop runs from 8 to 1. This is because we are right shifting and looking at the least significant bits first.

Now let's put this subroutine to work by writing a simple driver program. We are going to use this program and the bit pattern subroutine to look at the internal ATARI character set. This character set is stored in OS ROM starting at location 57344 (or E000 hexadecimal). Each character we see on our screens in graphics mode 0 is really a matrix of eight by eight dots; the dots are the same size as the pixels in graphics mode 8. The eight by eight matrix for each character is stored in the character set as eight bytes of information; thus each dot of a character is a bit. The character set consists of 128 characters and takes up a total of 1024 bytes of ROM (128 characters x 8 bytes per character). The inverse video characters are not stored explicitly in the character set but rather are produced by inverting the bit patterns of the 128 regular characters.

To take a look at the character set, type in the demonstration program and append the bit pattern subroutine. When running, the program will ask for a character number. Type in a number between 0 and 127 and the corresponding character in the ROM character set will be displayed. The program consists of a simple input loop that accepts the character number, computes the starting address of the character in the character set, and calls the bit pattern subroutine eight times, once for each byte or dot row of the character. You will soon notice that the characters in the ROM character set are not in the regular ATASCII order as shown in the back of the BASIC manual. The graphics characters represented by ATASCII numbers 0-31 are really characters 64-95 in the ROM character set. Likewise, uppercase letters, numbers, and punctuation whose ATASCII numbers are 32-95 are characters 0-63 in the character set. However, lowercase letters and some graphics characters, ATASCII 96-127, are also characters 96-127 in the character set. It is possible to customize and redefine this internal character set, but for now we will just look at it. The routines to redefine it will be the subject of a future article.

The bit pattern subroutine developed above was more or less tailored for looking at the character set, and thus used periods and inverse spaces for display purposes only. In general use, ones and zeroes can be used in the bit pattern string to facilitate bit testing. One such general use of the routine is in dumping screen data to a printer in dot mode. Perhaps we will attempt such a utility in this column, but for the near future what I have planned is the development of some decimal to hex and vice versa conversion routines and the use of these in dumping memory, disk files, and individual disk sectors.

```
32100 REM ___BITPAT ROUTINE___
32101   REM    arg1=input    byte    (0-255)
arg1$=string with bit pattern
32102 ARG1$=".........":FOR ARG2=8 TO 1  STEP
-1:ARG3=INT(ARG1/2)
32103       IF       ARG1-2*ARG3         THEN
ARG1$(ARG2,ARG2)=CHR$(160)
32104 ARG1=ARG3:NEXT ARG2:RETURN
```

```
100 REM ____DEMONSTRATION PROGRAM___
101 REM display character set
105 DIM ARG1$(8)
110 SETCOLOR  2,0,8:SETCOLOR  1,0,0:SETCOLOR
4,4,4:? "[CLEAR]"
115 ? "CHAR NUM:";:INPUT A
120 T=57344+8*A
125 FOR I=0 TO 7
130 B=PEEK(T+I):ARG1=B:GOSUB 32102
135 ? ,,ARG1$;"  ";B:NEXT I
140 GOTO 115
```

FROM THE EDITOR
by Todd Burkey

Wow, some articles at last. It has been a busy month, so I am once again doing the newsletter at the last minute. If anyone is interested, the entire newsletter is now put together using ATARIWRITER and printed on my Epson FX-80 printer. Blame this poor type quality on the fact that I am still using the original ribbon and have to overstrike just to get a copy dark enough for the printers (I know, I am a cheap-skate). I plan on getting a program for my ATARI/ATR8000 CPM system called FANCY FONT that should add a little pizzaz to future newsletters. The closest thing of the same nature available on the ATARI is very limited in the FONT capabilities. I will attach a sample of ATARIs output somewhere in this issue if space and time permit.

ACTION!

A.C.M.

This is a review of the new language ACTION! by OSS. You no doubt have read the ad proclaiming this to be the fastest 8 bit language in the world. B.S. right? Well, 12 seconds for the BYTE Sieve benchmark, you be the judge (e.g. Atari Pascal 190 sec. Read about it in Jan '83 BYTE.) I have been using it for about 3 weeks now. As the ad claims, the language is a hodge podge of various languages, though its main ancestor definitely resembles C more than any of the others, however any one who knew C would say I'm a jerk because C has so many neat little procedures...I would guess the market of the language is to those of you who are beyond the BASIC stage and have learned the hard way that machine code is just too much work, and that Forth is not meant to be learned by normal brains. I bought Val Forth when it first came out, thinking that it was the ultimate programming environment. I read Brodie (twice I believe), but I never picked up the knack for programming backwards (a nested for loop is a nightmare-to a beginner anyway). Alas, as I was perusing through the thorough 200 page manual, I immediately picked up on the syntax. Anyone familiar with Pascal (in my opinion, C is a low-level Pascal) will start writing programs immediately.

This syntax doesn't force you to think backwards like the other language and facilitates the conversion of other programs and ideas. Basically speaking, the language itself is made up of data types, FOR's, WHILE s, REPEAT's, IF-THEN ELSE, bit operators, and fuctions and procedures. ACTION! has its own library of procedures which constitute the SOUND, OPEN, and all that other stuff that utilize the O.S. routines.

Okay, but it's not perfect. Only 1, 2, and 2 byte signed basic data types are supported-no floating point. Of course you can still use Atari's FP package, but it will be a pain, and Mr. Wilkinson or whoever should have incorporated it because it is so simple to do! Basic data types, I say, because you also get strings, arrays of all kinds, pointers, and even that omnipotent thing called a record! One other nit picking detail that bugs me, excuse the computerese, is that ACTION! won't allow you to define the address of a locally defined parameter

of a procedure or function, although in declaring a variable you do have that option.

Whew! Okay, how 'bout speed and the length of the object code generated. With C, one gets incredible amounts of overhead, which on some systems comprises >10K (the IBM C's). Even with compiled BASIC there is a good amount of it (don't ask how much). I can only give you a subjective guess to how compact ACTION! compiles, and my conclusion is incredibly compact. E.G. An 11 sector circle generating program loaded with comments compiles to 3 sectors! But there is a catch. Located on the bottom of page 155 is the warning that you must have the ACTION! cartridge in the system while running your compiled program. After I concluded my tantrum, I rationalized this inclusion of standard procedures is one of the reasons ACTION! compiled so quickly and compactly-no decision has to be made by the compiler for the run time library. It is my hope that if one's program doesn t use any of these procedures that one may boot the compiled program without the burdensom 16k cartridge in there! (by the way, the cartridge itself is supposed to be special, that is 8k of it can be deselected, freeing up another 8k. Something else to investigate...)

Unlike BASIC, one types in the ACTION! program using a text editor, then transfers control to the monitor (ctrl-shft-M) and then compiles it. The editor is real nice-the auto key repeat is 10 times faster than the O.S., which makes going back and typing in BASIC seem like you've entered a worm hole. It has all the handy editor commands, and on a scale of 1-10 of text editors, this is a 9, to me marginally the best I've used on the Atari.

So it looks like I've found the most ultimate language I'll find on the Atari. If OSS supports the language as they have said they would (a programmers aid disc is in the making) and if they keep up their past reputation as being the most upright software developer in the world and send me my OS/A manual as their OLD ads said, then I recommend this language to anyone who bought their Atari s, not because they didn t have enough for an IBM, but because it was an ATARI.

DATA TRANSMISSION SYNOPSIS
By Mike Doleman

There was a talk about data transmission over phone lines at the Aug meeting given by Ernie Brosch, who works in the data communications area for Western Electric. This talk was of primary interest to people having modems, and particularly to those having trouble with the reliable transmission and reception of data.

I did not take notes so I will simply go over what I recall as the important points of the talk. We will proceed with the assumption that you have a working modem and any problems you may be having are not with the modem. (This is perhaps an ambigious assumption to someone having problems, but since the talk was not directed at the modem itself, we will also assume that anyone with problems has already had his modem confirmed as operational.)

TESTING THE PHONE LINE - Each time you make a modem call, listen to the quality of the sounds on your line. Any loss of quality on your line can usually be heard and recognized as a sub-standard connection. If you hear any noise or static on the line, re-dial and establish a good clean line. The key to a good connection is the "recognizability" of the person you talk to at the other end. As in normally talking a person, you can recognize their voice, so should you be able to recognize their voice over the phone. Any loss of this quality spells trouble for data transmission.

WHAT TO DO - If you think the phone line is the source of your problems, call the phone company and ask for a DATA specialist. Don't attempt to communicate your problems unless you speak to such a person, since otherwise you will be talking to a VOICE type who lives in a different world and will not be able to relate to your problems. When you do reach the DATA specialist, remember to use honey rather than vinegar since as it turns out, the phone company owes you nothing more that a voice connection on a residential line.

And what if you still get no respect? Make your problems known to the Publis Utilities Commission. With the advances being made in electronic communication, and more and more people using the phone lines for that (plus the increase in local service phone bills), it should be expected that data transmission capabilities be thought of as "owed" to the residential user.

BASIC ON/OFF
A HARDWARE MOD

by Randy Agee, WB4BZX

(from Jan-Feb issue of Ad Astra - newsletter of the ATARI MICROCOMPUTER NETWORK, Washington C.H., Ohio)

I've spent about ten months, and what seems like half of my computer time, popping the top door on my '800 to either plug-in or pull-out the BASIC ROM cartridge. For anyone who operates from a disk-based system and loads both BASIC and binary programs, I would imagine the experience is similar. Not only is it a real pain in the POKEY, but the ROM slot begins to loose their grip after a long period and causes contact problems.

Well, there IS a way to fix all of this! How would you like to leave BASIC or reload BASIC with the flip of a switch??? It can be done for less then 2 bucks and 40 minutes of your time. It will require surgery to your machine and will void any remaining warranty. I also caution you to NOT ATTEMPT this modification unless you feel comfortable working with modular printed circuit boards.

To start, remove the pop-top, BASIC and all other ROM and RAM cards for your computer. Either remove or turn to the side the plastic locking tabs for the top. turn the 800 over and remove the 5 Phillips screws from the bottom of the case. Once inside, place a pencil mark beside the three remaining screws holding down the mother board (so you will know which ones to replace before re-assembling the case). Now remove the remaining screws. You may now remove the mother board from the top of the case and the keyboard. Carefully unplug the keyboard and the speaker and set them with the top case aside. Remove all of the Phillips screws around the perimeter of the metal shield. You may now unplug the mother board and the line going to the top board. Lift the mother board clear from the computer. You will notice 4 nylon retainers in the metal shield. If you turn the mother board over, you will note that there are pins in these retainers that may be pushed back with a small screwdriver to remove the shield completely. Onc this is accomplished, the plastic cover may be snapped off from the top of the motherboard by pushing in the tabs underneath.

Now we are ready for the serious part. Looking at the bottom of the board from the controller jacks end you should be able to id4ntify the left cartridge slot (on your right). There are 30 pins on this connector. Starting on the back row and counting from your right, find pin 13. This is the Vcc (+5v) pin. The initial foil for this pin comes out on the top of the board and then comes through the board to the side you are looking at. If you hold the board up to a strong light it is easy to trace this line. CAREFULLY cut through the foil on the bottom side of the Vcc line so as to break the path. I used an electric pencil engraver for this job. Solder a length of small two-conductor cable to each side of the foil and dress to your right, taking care to aviod any sharp component ends, and replace the shield and nylon pins. Snap in the plastic piece on the other side and reassemble the top part of the computer to the case. If you use small wire there is enough space to bring your leads out of the lower-right corner of the metal plate where it meets the aluminum card housing. Set these parts aside for a moment.

Pick up the bottom of the case and set it so that the controller jacks are facing you and it is right-side up. On your left, near the speaker boss, is a small smooth round spot on the lip on the case. This is a perfect spot to drill a 1/4" hole to mount a subaini toggle-switch such as a Radio Shack 275-324 ($1.99). This spot puts the switch out of the way and out of sight, but still allows quick and easy access. Solder the wires from the cut in the foil to the switch and put the bottom case on the computer.

If you were sucessful in your venture within the innards of the '800, you may now leave your BASIC cartidge installed and choose between BASIC and binary mode by the flip of a switch. Let's assume for a moment that you have just booted in DOS, without a cartridge in the left slot, and realize you need BASIC. Bad news huh? You would have to re-boot DOS with BASIC installed! With this modification, all you have to do is flip the swith to BASIC and press SYSTEM RESET key to load it in. The inverse is true to leave BASIC. No power-up, power-down or plug in or out is necessary! Your operations are not only easier, but a lot of wear anf tear on your computer is avoided.

Good luck!
73,
Randy T. Agee, WB4BZX

NOTE: SEE PICTURES ON LAST PAGE.

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WE ARE TRYING TO CLEAR A FEW DEMONSTRATION PIECES OF HARDWARE, SO IF YOU'VE BEEN THINKING OF A SPARE COMPUTER FOR YOUR KIDS, OR A RECORDER FOR THOSE PROGRAMS THAT ARE ONLY AVAILABLE ON CASSETTE, DO WE HAVE A DEAL FOR YOU!

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WE ARE ALSO STILL CLEARING GAME SOFTWARE AND HAVE TWO GROUPS AVAILABLE FOR THE RIDICULOUS PRICES OF $10 OR $15. CALL FOR MORE INFORMATION.

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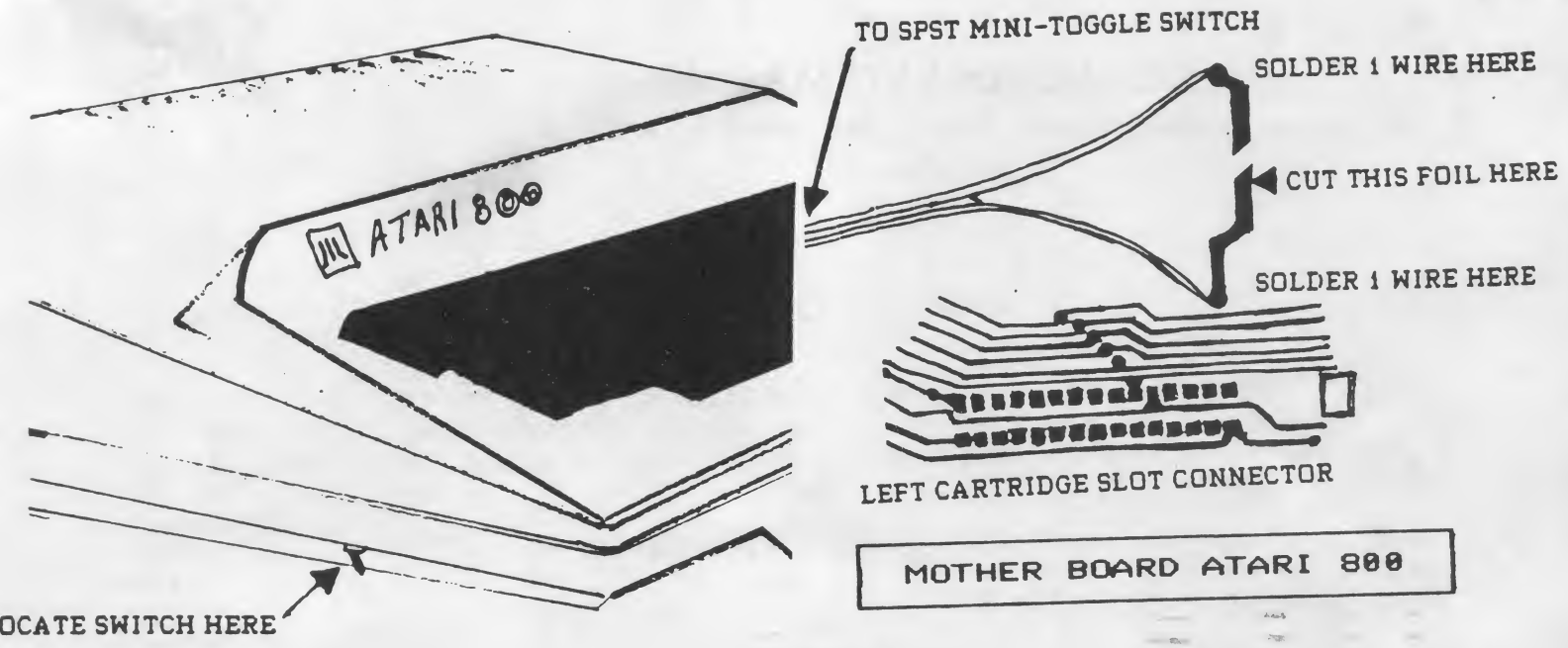

TWINCITY ATARI INTEREST GROUP
6824 QUEEN AVE. S.
RICHFIELD, MN 55423

Next TAIG Meeting:
Sunday, September 25, 1983
Tutorials (org.) - 6:00
TAIG - 7:00 P.M.
COMPUTE! Planning- afterwards

Odd Fellow's Lodge
3003 27th Ave. S.
Mpls, MN